REMARKS

Claims 1-5 and 7-20 are in the case, and claims 9-20 have been withdrawn from consideration. Claims 7-8 are objected to. Claims 1-5 and 7-8 are rejected under 35 USC § 112. Claims 1-5 and 7-8 are rejected under 35 USC § 102 over USPN 5,591,269 to Arami et al. Claims 1, 3-4, and 7-8 are rejected under 35 USC § 102 over USPN 5,435,379 to Moslehi et al. Claims 1-3, 5, and 7-8 are rejected under 35 USC § 103 over Muller et al. in view of Arami et al. Claims 1 and 7-8 have been amended. No new matter has been introduced by the amendments, which are supported by the disclosure of the original claims and the specification. Reconsideration and allowance of the claims are respectfully requested.

CLAIM OBJECTIONS

Claims 7-8 are objected to for improper dependent form. Claims 7-8 are hereby amended to overcome the objection. Reconsideration and removal of the objection to claims 7-8 are respectfully requested.

CLAIM REJECTIONS UNDER § 112

Claims 1-5 and 7-8 are rejected under 35 USC § 112 for being indefinite. Claim 1 is hereby amended to overcome the rejection. Reconsideration and allowance of claim 1 and claims 2-5 and 7-8 which depend therefrom are respectfully requested.

CLAIM REJECTIONS UNDER § 102

Claims 1-5 and 7-8 are rejected under 35 U.S.C. 102 as being unpatentable over Arami et al. Independent claim 1 claims, *inter alia*, a method for controlling the temperature of a substrate ***by controlling with a controller*** a chuck temperature, including circulating ***under control of the controller*** a media through the chuck, sensing the chuck temperature, reporting the chuck temperature ***to the controller***, where ***the controller is adapted to adjust the process energy, the media flow rate, and the media temperature***, and when the chuck temperature is outside of a desired range, then ***using the controller*** to bring the chuck temperature within the desired range ***by sequentially***

adjusting, a ***first one of the media temperature and the media flow rate,*** if the chuck temperature is not within the desired temperature range, then adjusting a ***second one of the media temperature and the media flow rate*** that has not been previously adjusted, if the chuck temperature is still not within the desired temperature range, ***then adjusting the process energy*** until the chuck temperature is within the desired temperature range.

Thus, claim 1 requires several limitations as a part of the method. First, it requires the use of a controller that adapted to control at least three different things, being the process energy, the media flow rate, and the media temperature. Thus, if a method does not use such a controller to control the temperature of the substrate, then the present method as claimed does not read on that method. Further, if a method uses a controller to control the temperature of a substrate, but the controller is not adapted to control the process energy, the media flow rate, and the media temperature, then the present method as claimed does not read on that method. Second, claim 1, as a method claim, requires that the controller operates to control the temperature by taking specific actions in a specific order. If a method does not take these same actions, or performs them in a different order, then the present method as claimed does not read on that method.

Applicants note that while a specific instance of the use of the method of claim 1 may not require that all of the media temperature, media flow rate, and process power be adjusted to control a temperature excursion, the method as claimed nonetheless requires the capacity to do all three. Further, the method as claimed requires the use of a controller that is adapted to accomplish all three submethods of temperature control. As describe in more detail hereafter, none of the references, either alone or in combination, describe such a method.

Arami et al. do not describe such a method. Specifically, Arami et al. do not describe a method that uses a controller that is adapted to control all three of the process energy, the media flow rate, and the media temperature. Arami et al. do not adjust the temperature of the coolant, and neither do Arami et al. adjust the process power. It is ***again*** noted that the references to adjusting power in Arami et al. are in regard to the power supplied to the heater blocks 130, 131, and 132, which have nothing to do with the processing power. Further, Arami et al. do not describe first adjusting the temperature and flow rate of the media, and then only if that doesn't work to control the temperature

by adjusting the process energy. Thus, the method described by Arami et al. is different from the method as claimed in claim 1.

Therefore, claim 1 patentably defines over Arami et al. Reconsideration and allowance of claim 1 are respectfully requested. Dependent claims 2-5 and 7-8 depend from independent claim 1, and contain additional important aspects of the invention. Therefore, dependent claims 2-5 and 7-8 patentably define over Arami et al. Reconsideration and allowance of dependent claims 2-5 and 7-8 are respectfully requested.

Claims 1, 3-4, and 7-8 are rejected under 35 USC § 102 over Moslehi et al. Independent claim 1 claims, *inter alia*, a method for controlling the temperature of a substrate ***by controlling with a controller*** a chuck temperature, including circulating ***under control of the controller*** a media through the chuck, sensing the chuck temperature, reporting the chuck temperature ***to the controller***, where ***the controller is adapted to adjust the process energy, the media flow rate, and the media temperature***, and when the chuck temperature is outside of a desired range, then ***using the controller*** to bring the chuck temperature within the desired range ***by sequentially adjusting***, a ***first one of the media temperature and the media flow rate***, if the chuck temperature is not within the desired temperature range, then adjusting a ***second one of the media temperature and the media flow rate*** that has not been previously adjusted, if the chuck temperature is still not within the desired temperature range, ***then adjusting the process energy*** until the chuck temperature is within the desired temperature range.

Moslehi et al. do not describe such a method. Specifically, Moslehi et al. do not describe a method that uses a controller that is adapted to control all three of the process energy, the media flow rate, and the media temperature. Moslehi et al. do not adjust the flow rate of the chuck coolant, and neither do Moslehi et al. adjust the process power. Moslehi et al. do not describe first adjusting the temperature and flow rate of the media, and then only if that doesn't work to control the temperature by adjusting the process energy. Thus, the method described by Moslehi et al. is different from the method as claimed in claim 1.

Therefore, claim 1 patentably defines over Moslehi et al. Reconsideration and allowance of claim 1 are respectfully requested. Dependent claims 3-4 and 7-8 depend

from independent claim 1, and contain additional important aspects of the invention. Therefore, dependent claims 3-4 and 7-8 patentably define over Moslehi et al. Reconsideration and allowance of dependent claims 3-4 and 7-8 are respectfully requested.

CLAIM REJECTIONS UNDER § 103

Claims 1-3, 5, and 7-8 are rejected under 35 U.S.C. 103 as being unpatentable over Muller et al. in view of Arami et al. Independent claim 1 claims, *inter alia*, a method for controlling the temperature of a substrate ***by controlling with a controller*** a chuck temperature, including circulating ***under control of the controller*** a media through the chuck, sensing the chuck temperature, reporting the chuck temperature ***to the controller***, where ***the controller is adapted to adjust the process energy, the media flow rate, and the media temperature***, and when the chuck temperature is outside of a desired range, then ***using the controller*** to bring the chuck temperature within the desired range ***by sequentially adjusting,*** a ***first one of the media temperature and the media flow rate,*** if the chuck temperature is not within the desired temperature range, then adjusting a ***second one of the media temperature and the media flow rate*** that has not been previously adjusted, if the chuck temperature is still not within the desired temperature range, ***then adjusting the process energy*** until the chuck temperature is within the desired temperature range.

Muller et al. do not describe such a method. Specifically, Muller et al. do not describe a method that uses a controller that is adapted to control all three of the process energy, the media flow rate, and the media temperature. Muller et al. do not adjust the flow rate of the chuck coolant to adjust the temperature of the chuck. Further, Muller et al. do not describe first adjusting the temperature and flow rate of the media that is used to cool the chuck in order to control the temperature of the wafer, and then only if that doesn't work to control the temperature by adjusting the process energy. It is specifically noted that Muller et al. have no description whatsoever of combining any of the temperature control methods. Even in the claims, Muller et al. do not describe combining the temperature control methods in any way. Thus, Muller et al. do not describe any combination of temperature control methods, let alone the novel combination and order

of temperature control methods as described in claim 1. For this reason, any argument as to the order of use of the temperature control methods being obvious is moot, because Muller et al. do not even use an order of temperature control methods. Instead, Muller et al. describe the separate and isolated use of alternate temperature control methods. Therefore, the method described by Muller et al. is different from the method as claimed in claim 1.

Arami et al. do not remedy the deficiencies of Muller et al. Specifically, Arami et al. do not describe a method that uses a controller that is adapted to control all three of the process energy, the media flow rate, and the media temperature. Arami et al. do not adjust the temperature of the chuck coolant to adjust the temperature of the chuck, neither do Arami et al. adjust the process power to adjust the temperature of the chuck. Further, Arami et al. do not describe first adjusting the temperature and flow rate of the media that is used to cool the chuck in order to control the temperature of the wafer, and then only if that doesn't work to control the temperature by adjusting the process energy. Thus, the method described by Arami et al. is different from the method as claimed in claim 1.

Therefore, the combination of Muller et al. and Arami et al. do not describe the method as claimed in claim 1, and claim 1 patentably defines over Muller et al. in view of Arami et al. Reconsideration and allowance of claim 1 are respectfully requested. Dependent claims 2-3, 5, and 7-8 depend from independent claim 1, and contain additional important aspects of the invention. Therefore, dependent claims 2-3, 5, and 7-8 patentably define over Muller et al. in view of Arami et al. Reconsideration and allowance of dependent claims 2-3, 5, and 7-8 are respectfully requested.

ENTRY OF AMENDMENTS

Applicants assert that the amendments should be entered even if they do not overcome all of the examiner's concerns. The reason for this is that the amendments: do not raise new issues that would require further consideration or search; do not raise the issue of new matter; do not present additional claims, and; place the application in better form for appeal by materially reducing or simplifying the issues for appeal, and will thereby streamline the appeal process and conserve Patent Office resources.

CONCLUSION

Applicants assert that the claims of the present application patentably define over the prior art made of record and not relied upon for the same reasons as given above. Applicants respectfully submit that a full and complete response to the office action is provided herein, and that the application is now fully in condition for allowance. Action in accordance therewith is respectfully requested.

In the event this response is not timely filed, applicants hereby petition for the appropriate extension of time and request that the fee for the extension be charged to deposit account 12-2355. If other fees are required by this amendment, such as fees for additional claims, such fees may be charged to deposit account 12-2252. Should the examiner require further clarification of the invention, it is requested that he contact the undersigned before issuing the next office action.

Sincerely,

LUEDEKA, NEELY & GRAHAM, P.C.

By: 

Rick Barnes, 39,596